

M. Poliakov, who was sent by the St. Petersburg Academy for the exploration of the fauna of the Lower Obi, which fauna has not been explored since the times of Pallas's companion Zoëff, has already collected many interesting zoological materials. He found, also, vestiges of the stone age. Having received some pecuniary help from the municipal councils of Tiumen and Tobolsk, he proposed to extend his travels to the mouth of the Obi, and to reach, if possible, the Tasofskaia Gooba.

M. Chersky, of the Siberian Branch of the Geographical Society, explored the lower parts of the Irkoot river, where it enters its deep cañon below the Toonka settlement. This cañon has been traversed but once, in 1855, by M. Bakshevitch. It is reported, by the *Sibir*, that M. Chersky, as might be expected, has collected many materials for the settling of the much-debated question on the origin of the Toonka valley, and of the trough of the Baikal.

M. Regel (son of the botanist), having accepted the position of surgeon in the Kooldsha district, is exploring the country and preparing large collections for the St. Petersburg Academy and Botanical Gardens; and Capt. Larionoff with three preparators for natural history collections, continues his investigation of the hilly tracts of the same district.

Prof. Wagner, zoologist, has just returned from his excursion to the White Sea. He stayed more than a month on the Solovetzky islands, engaged in the collection of materials for his biologic-morphological studies; and his companions, Prof. Grigorieff, and the students Andréeff and Mereshkovsky, have traversed the shores of the White Sea, and returned with large collections of the sea-fauna.

The zoologist, M. Grimm, sent for the exploration of the Caspian fauna, gives ampler information as to his proceedings, in letters published in the *Golos*. Having at his disposition the steamer *Persianin*, he cruised the sea in various directions. On the cruise between Bakoo and Fort Alexandrofsk he dredged at various depths between six and 300 fathoms, bringing up immense quantities of animal forms. The most interesting were: molluscs, *Adæna vitrea*, enormous *Cardium crassum*, and an undetermined species of *Cardium*; among the sponges, the *Reniera flava*; a new species of *Isopoda*, some new species of *Gammaridae*, a new *Mysis*, the *Idotea entomon*, &c. Among the fishes deserve to be mentioned some small ones from a depth of 70-90 fathoms, as transparent as glass, and a black marine species of *Lucioperca*, more common at Fort Alexandrofsk than the common *Lucioperca sandra*.¹ Further dredgings on the cruise to Krasnovodsk, made during a dead calm, at depths from 6 to 130 fathoms, produced similar large quantities of animals, many of them found for the first time in the Caspian, or totally new. The more interesting were: living *Adæna vitrea*, *Cardium*, many *Gasteropoda*, a new species of *Neritina*, and a living *Planorbis micromphalus* (discovered in 1874), from a beautiful rose-colour. The *Crustacea* and *Vermes* were also numerous. But the most beautiful of the collection found are sponges collected near the Kara-boogas gulf at depths of 40-48 fathoms. Marked by the most vivid colours, from pale-yellow to a bright red, they cover nearly, without interruption, the stones, assuming the forms of flat thick carpets, and half-spherical, totally spherical, or egg-shaped masses, reaching the size of a child's fist. Altogether, the two cruises in the northern parts of the Caspian gave a very interesting, varied, and rich collection of animal forms, and proved that the northern part of the sea has a richer fauna than the south, which, at first, seemed improbable. It is well to remark, also, that on the eastern shores, where the water reached as high a temperature as 31° Cels., the animals occupy deeper zones than on the western shores where the temperature of the water is lower. Having

¹ The whole number of species of fishes in the Caspian M. Grimm estimates to be about eighty, ten of which are new species, discovered by the explorer in 1874.

made some excursions in the neighbourhood of Krasnovodsk, M. Grimm proceeded to Bakoo, but the weather was very stormy and the dredgings were made at small depths (sixteen fathoms), producing only already known forms. From Bakoo M. Grimm proceeded northwards, proposing to explore the greatest depths of the northern parts of the sea.

NOTES

AT the recent meeting of the Association of German Naturalists and Physicians at Hamburg, a proposal for the establishment of zoologico-botanical stations on the German coast was reported on and discussed. The high importance of such establishments to German science was recognised. While all praise was accorded to the Naples establishment, considerations of distance, expense, and climate, render it desirable that similar stations should be established within easier reach of German students and biological investigators. The report of the Committee appointed to consider the matter discussed the suitability of various places for such establishments, and concludes by strongly recommending Kiel on the Baltic and Heligoland in the North Sea. The Committee are of opinion that the establishments should be established on the broadest bases for the investigation not only of the botany and zoology of the seas referred to, but also for their physics, their chemistry, and for meteorology. In the discussion which followed it was suggested that the Heligoland station might be conducted in connection with English men of science. The Association finally decided as follows:—1. The erection of stations for zoologico-botanical research at Kiel and in Heligoland is necessary for the development of German science. 2. The Association approves of the drawing up of a memorandum and petition, to be sent to the Imperial Chancellor, the Bundersrath, and the Governments of the several States of the Empire, with the additional request to the Prussian Government that it would take the initiative in the matter. 3. The Association to appoint a commission to draw up and distribute the memorandum. 4. The memorandum to be circulated among all eminent German scientific men, in order to obtain as many signatures as possible. The following Commission was appointed to draw up the memorandum:—Professors Alex. Braun, Ernst Haeckel, Rud. Leuckart, Dr. H. Ad. Meyer, Alex. Pagenstecher, Pringsheim, and Julius Sachs, with power to add to their number. It is not necessary to say one word in commendation of this admirable scheme; we cannot doubt that it will be successfully carried out.

DR. JANSSEN is devising the construction of an automatic photographic revolver, which will take a photograph of the sun every hour each day of the year, from sunrise to sunset. The photographs which will be taken under cloudy conditions, will be useless so far as sunspots are concerned, but they might be utilised for meteorological purposes. The others will be kept and tabulated. The advantage of this plan is that it will dispense with any observer, and will obtain a mechanical regularity. A communication will be made very shortly to the Academy of Sciences on the invention which was suggested by the discussion on the transit of "Vulcan." It will be set to work in the physical observatory of Dr. Janssen.

AT the inaugural meeting of the third session of the Yorkshire College of Science, held on Friday last, Lord Frederick Cavendish, M.P., the President of the College, drew attention to a report drawn up by Mr. Beaumont, the Instructor in the Textile Industry Department, in conjunction with Mr. Watts Maclaren, on the Weaving Schools of the Continent. It appears that there are no less than twenty-five separate schools of instruction in connection with textile industries, in addition to seven belonging to Polytechnic Institutions, scattered throughout France, Belgium, and Germany, and in spite of the fact that the majority

of these schools are unaided by the State and have to rely mainly upon the fees of the students, supplemented by subscriptions from the manufacturers, they can vie with some of the best equipped scientific laboratories of the Continent in the character of their organisation and in the completeness and extent of their arrangements. An effort is about to be made to secure a portion of the surplus in the hands of the Commissioners of 1851, with a view to the further extension and development of the College. They had established a number of chairs more or less connected with the necessities of the manufacturers of the district, but they required extension in the direction of other subjects, many of which doubtless lay nearer to the basis of sound education. Their buildings were rapidly getting inadequate to their requirements, and they wanted additional lecture-rooms, and a good library. Prof. Rücker, speaking for himself and his colleagues, believed that the greatest want of the institution was not so much that a large sum of money should be devoted to further scientific objects, but that a portion of the money should be spent in the furtherance of other objects of education besides those which were scientific. They found practically that they were hampered in their work by the fact that they were unable to offer to the students that came to the college a complete preparation for the curriculum which they would have to go through at the universities. The Council of the College had found themselves in a position to add to the scientific chairs which they had already founded, and he trusted that they would soon be able to create chairs for classics, modern languages, and literature.

A KIND of supplement is about to be issued regularly along with *Poggendorff's Annalen*, under the title of *Beiblätter zu der Annalen der Physik und Chemie*, the object being chiefly to give a résumé of physical science in foreign countries.

FROM a letter received from Prof. Mohn, we learn that hourly meteorological observations of all the elements have been made by the Norwegian Scientific Expedition during the whole cruise. In the hands of this distinguished meteorologist the invaluable data thus acquired will doubtless be made to tell us something regarding the daily periods of the meteorological elements, including the surface temperature and density of the northern portion of the Atlantic, and the part they play in the meteorology of North-Western Europe.

THE unusually high temperature which prevailed over the British Islands during the latter part of last week deserves a passing notice. The mean temperature from October 4 to 7 was 62° in London, and 59° in East Lothian, being 8° and 9° respectively above the average of the season. The Weather Maps of the *Bulletin International* of Paris and of the *Deutsche Seewarte* of Hamburg, show for these days a high atmospheric pressure over all Europe southwards and eastwards, whilst a pressure continually getting lower was met with on advancing westwards over the British Islands. These are interesting as the meteorological conditions which are the immediate cause of unusually mild warm weather at this season of the year, seeing they necessarily result in an extensive southerly atmospheric current, bearing northwards with it the high temperature and moisture of southern latitudes.

THE fourth number of the *Izvestia* (Bulletin) of the Russian Geographical Society, just appeared, contains a sketch of the Guissar region and of the Koolab-beckdom, by M. Maieff; letters of the governor of the Semipalatinsk province, by General Poltaratzky; on the German expedition of Dr. Finsch, Dr. Brehm, and Count Waldburg-Zeil; and two letters from Dr. Michucho Maclay written on board the schooner *Sea-Bird*, and dated February 29 and April 12. Desirous of obtaining further information as to the races of South-eastern Asia, the East Indian Archipelago, and of the Pacific Islands, Dr. Maclay

wished especially to visit the islands of Western Micronesia and the group of little-known islands lying between New Guinea, New Ireland, and New Britain, these islands being, it is supposed by certain ethnologists, near to the route taken by the Malayo-Polynesian race before spreading over the islands of the Pacific. The *Sea-Bird*, at the time the letters were written, was going to the western islands of the Caroline Archipelago, stopping from time to time at the more interesting localities lying near to her course; and after having discharged her cargo she will be for some time at the disposal of Dr. Maclay, for his proposed journey.

THE members of the scientific expedition sent for a further exploration of the former bed of the Amu-arya, left the Krasnovodsky post on August 22, with a reconnoitring military party proceeding to the Steppes under General Lomakin.

WE are glad to learn from the *Mauritius Commercial Gazette* that Mr. John Horne, F.L.S., who for a long time has most successfully fulfilled the duties of director of the Mauritius Botanical Gardens, has been confirmed in the appointment. This promotion we believe to have been thoroughly well earned.

VISCOUNT WALDEN, President of the Zoological Society, has, by the death of his father, succeeded to the Marquisate of Tweeddale.

THE death is announced of the Chevalier Pertz, for many years librarian to the Royal Library, Berlin, and editor of the *Monumenta Germanica*. He was brother-in-law to the late Sir Charles Lyell.

THE *Reports of the Meteorological, Magnetic, and other Observations of the Dominion of Canada, for 1875*, appear in a thick volume of 541 pages, giving full details of the tri-daily observations and monthly extremes and means for the year at various stations, now amounting to 108. The report gives evidence throughout of increasing energy and efficiency in this valuable system, the object of which is the collection of meteorological statistics suited for the discussion of physical questions, and the deduction therefrom of the climatic character of the several districts, and the application of the facts and principles thus acquired to questions of practical utility, especially the prognostication of the weather. The new features of this report are a table of the latitudes, longitudes, and heights of the stations, and tables of the maxima and minima of temperature at the more important stations in the dominion for each day of the year. Among the interesting facts noted is the low temperature of -49°·5, which occurred in January at York Factory, on Hudson Bay, the mean for the month at the same place being -25°·5, and for February following, -24°·6.

MR. CHARLES TODD has issued in a separate form his paper "On the Observatory and Climate of South Australia," originally published in the "Handbook of South Australia." Perhaps no other of our English colonies could be named whose climate has been more ably and, so far as the materials hitherto collected admit of it, more exhaustively treated than that of South Australia in this tractate. The rainfall of the colony is now being investigated at upwards of seventy observing stations extending over the whole breadth of Australia, as is also the annual southerly march of the north-west monsoon which prevails on the north coast from about the middle of November to March, and occasionally extends its influence in heavy thunderstorms right across the continent. Among the many interesting relations subsisting between the meteorology of South Australia, and that of surrounding regions may be noted the progressive changes of the barometer which, roughly speaking, advance from west to east at such rates as to occupy from two to four days in passing from Western Australia to Adelaide, after which they reach Melbourne in from twelve to twenty-four hours, and

Sydney and Brisbane in about twenty-four to forty hours. The importance of this in a system of weather warnings for Australia need scarcely be pointed out.

A LINNEAN Society was recently established in New South Wales, and now numbers, in addition to a president (Mr. W. Macleay), vice-president, secretary, treasurer, and council, about 120 members. Its first meeting was held on January 25, 1875, and it now publishes the first part of its first volume of *Proceedings*. Among the papers are contributions to the Malacology of Australia and the Solomon Islands, by Mr. Brazier; to our knowledge of the stone implements of Australia and the South Sea Islands, by Dr. Cox; description of a new genus and species of rat-kangaroo (*Hypsignathodons moschatus*), by Mr. E. P. Ramsay; and, by the same author, of a new genus and species of Passerine bird (*Vitia ruficapilla*), from the Fiji Islands; notes on zoological collections made in Torres Straits and New Guinea during the cruise of the *Chevert*, &c. The botany of the colony appears at present to have furnished nothing to the Society, to which we wish a prosperous career.

MR. W. J. BEAL reprints in one cover three papers read before the American Association for the Advancement of Science at the Detroit meeting:—Carnivorous plants, Inequilateral leaves, and the Venation of a few odd leaves. Mr. Beal includes *Martynia* in the list of true carnivorous plants.

THE fourth annual edition has appeared of Prof. E. Morren's extremely useful "Correspondance botanique," a list of all the botanic gardens in the world, with the officers connected with them, and the various other establishments for instruction in botany.

THE following curious experiment has recently been described by M. Spring to the Belgian Academy:—A sheet of vulcanised caoutchouc two-tenths of a millimetre thick is stretched till its surface becomes six or seven times greater, then rubbed with a cloth. This friction electrifies the sheet so that it will readily attract light bodies. If now the mechanical tension of the sheet be gradually diminished, the quantity of electricity diminishes along with it, until when the band has recovered its original length, all trace of electricity disappears (provided the original charge have not passed a certain limit). M. Spring concludes that the variations of electric state of the band are intimately connected with molecular changes experienced interiorly according to the degree of tension. The experiment is one which deserves the attention of physicists.

THE recent number of the *Schriften der naturforschenden Gesellschaft in Dantsig* contains several excellent photographs of the skeleton of a whale (*Fierobalena laticeps*, Gray), stranded in Dantzic Bay in 1874; a description of the spiders of Prussia; a lecture by M. Ohlert on Laplace's hypothesis, and an account of acoustical studies on the piano, by M. Kayser.

M. SKALWEIT, of Memel, relates in the publication just named that in summer he observed a wasp flying about a writing desk near an open window. There were some steel pen-holders on the desk, and the wasp went into one of the tubes. This must have appeared convenient to it, for it soon began to bring in small caterpillars, building each in with earthy paste, till the tube was full. In each cell an egg was also deposited. M. Skalweit took away this holder, and put another in its place. This was similarly filled by the wasp, though in rainy weather and at night the window was closed. Four holders were thus filled. Opening the holders in the end of August, M. Skalweit found the larvæ grown and the caterpillars consumed. The wasp in question was the *Odynerus parietum*, which generally constructs its cells in old fence-posts, hollow plant-stems, old walls, &c.

An improved catalogue of variable stars is published by Prof.

Schönfeld in the thirty-ninth and fortieth *Jahresbericht des Mannheimer Vereins für Naturkunde* (Mannheim, 1876). It is largely based on his own observations.

THE extraordinary divisibility of matter is well illustrated by a lecture experiment recently described to the Berlin Chemical Society by M. Annaheim. He employs the strong colouring power of fuchsin and cyanin. To form an idea what quantities of colouring matter were still perceptible by the eye, he dissolved 0.0007 gramme of fuchsin (a particle about 0.5 mm. diameter) in spirit of wine, and diluted the solution to the extent of 1,000 cubic centimetres. Thus in each centimetre there was still 0.0000007 gramme colouring matter. If this liquid be put in a burette of about 1 cm. diameter, it appears strongly coloured on a white ground, and the colour can be distinctly seen from a distance. If a drop from the burette (there are thirty-five of them in a cub. cm.) be now let fall into a small dry test-tube of about 0.8 cm. diameter, the red colour is still evident if the tube be held obliquely on white paper, and looked at parallel to the paper, while a second tube with pure spirit of wine is held near for comparison. It follows from this, that with the naked eye one can still perceive 0.00000002 gramme fuchsin. Assuming that one drop of the solution only contains one molecule of colouring matter (and so much must in all circumstances be present), the absolute weight of an atom of hydrogen is inferred to have the astonishingly small value of 0.00000000059 gramme (viz. 0.00000002 : 337.5; molecular weight = 337.5). M. Annaheim makes a similar experiment with cyanin, and infers the absolute weight of an atom of hydrogen to be 0.00000000054 gramme, which closely agrees with the former estimate. From these experiments, then, it is mathematically certain, that the absolute weight of an atom of hydrogen cannot be greater than 0.0000000005 gramme.

THE number of visitors to the Loan Collection of Scientific apparatus during the week ending October 7 was as follows:—Monday, 2,186; Tuesday, 1,767; Wednesday, 239; Thursday, 252; Friday, 200; Saturday, 2,439. Total, 7,083.

THE Catholic University of Lille has been at last organised, but the governors of the Sainte-Eugénie Hospital having refused to establish a ward for their use, there can be no Faculty of Medicine. Consequently the University authorities, it is said, are to prosecute the governors before the Council of State in order to obtain the requisite number of patients.

A CORRESPONDENT of *Land and Water* shows that some of our most recent inventions were foreshadowed, if not actually accomplished, upwards of 300 years ago. In a work, "Vegellii Renoti (Flavii) viri illustris de re militari libri quatuor, etc. Parisiis subscuto Basiliensi ex officina Christiani Wecheli, M.D.XXXV.," are figures of a number of military engines, which we work very hard at reinventing. Amongst others there is a revolving gun, revolving turrets for monitors, water-beds for the wounded, &c. The first plate of Book III. shows a warrior habited in a "Boyton dress," completely immersed in water, but without apparent means of breathing. In the second plate is a diver with a reservoir of air, and tube communicating with the surface. There are several representations of these "tube and reservoir" apparatus, and diving dresses. An engraving not only shows the submarine explorer of more than 300 years ago at work, but also gives the diagram of a diving-bell, according to the notion of some engineer of the early part of the sixteenth century.

THE Session of the Watford Natural History Society and Hertfordshire Field Club commences this evening with a lecture "On the Polarisation of Light," by Mr. James U. Harford.

THE storm of the end of September raged with such terrific force at Dijon (Côte d'Or) on the 30th at 2 o'clock in the afternoon, that two turrets on the cathedral were thrown down.

M. KRANTZ intends to imitate on a smaller scale the great Hell Gate explosion by opening in a similar manner the ground of the Champ de Mars, and thus expediting the excavations for the erection of the basement of the Exhibition building.

THE French papers give some figures with reference to the iron framework of the building now constructing. The weight required for the machine gallery will be 17,000 tons, and for other galleries 10,000 tons. To these 27,000 tons of iron or cast-iron may be added 700 tons of sheet iron for covering the building. The superficial extent of carpenter work for battening the roof will be 90,000 square yards covered with zinc. The quantity of the wood necessary is about 2,000 cubic yards. The number of rivets used for bolting the metallic frame will be 11,000,000, and the number of holes to be perforated a little more than double, viz., 23,000,000.

AMONG the lectures to be given at the Nottingham Literary and Philosophical Society during the coming winter, are one by Dr. Ball, F.R.S., November 9, "A Night at Lord Rosse's Telescope," and another on December 7, by Dr. M. Foster, F.R.S., "On Nerves."

THE following are some of the scientific works to be published during the coming season:—The second series of Mr. George Henry Lewes' "Problems of Life and Mind," entitled "The Physical Basis of Mind," is in the press, and will be published by Messrs. Triibner. The same publishers are preparing for publication in December, "Theoretical Mechanics," a Manual of the Mechanics of Engineering and of the Construction of Machines, with an Introduction to the Calculus; designed as a text-book for technical schools and colleges, and for the use of engineers, architects, &c., by Julius Weisbach, Ph.D., Professor at the Royal Mining Academy at Freiberg. It is translated from the fourth augmented and improved German edition by Eckley B. Cox, A.M., Mining Engineer. With woodcuts.—Messrs. Bentley and Son have in the press a narrative of travel in Norway and Lapland, by Mr. S. H. Eden, to be called "Within the Arctic Circle."—We are glad to notice that Messrs. Chatto and Windus are preparing a new edition of "Wilson's American Ornithology; or, Natural History of the Birds of the United States;" with the continuation by Prince Charles Lucien Bonaparte; completed by the insertion of above one hundred birds omitted in the original work, and illustrated by notes and a life of the author by Sir William Jardine.—Among Messrs. H. S. King and Co.'s announcements we observe:—"The Large and Small Game of Bengal and the North-Western Provinces of India," by Capt. J. H. Baldwin, F.Z.S., Bengal Staff Corps, with numerous Illustrations. "Studies in Spectrum Analysis," by J. Norman Lockyer, F.R.S., "The Races of Man and their Geographical Distribution," from the German of Oscar Peschel. This last-named book is ready.—Prof. Tyndall's "Lessons in Electricity at the Royal Institution," will be published by Messrs. Longmans at the end of this month.

THE additions to the Zoological Society's Gardens during the past week include two Silky Marmosets (*Hapale chrysoleucus*) from S.E. Brazil, presented by Master T. A. Brassey; a Green Monkey (*Cercopithecus callitrichus*) from W. Africa, presented by Mr. Chas. L. N. Ingram; an Entellus Monkey (*Semnopithecus entellus*) from India, presented by Mr. Edwin Penn; two Coatis (*Nasua nasica*) from S. America, presented by Mr. J. A. Watson; a Vulpine Phalanger (*Phalangista vulpina*) from Australia, presented by Mr. Graham M. Sutton; four European Terrapins (*Clemmys europea*), European, presented by Mr. Edward W. Bonham; two Tora Antelopes (*Alcelaphus tora*) from S. Africa, purchased; two Scemmerring's Antelopes (*Gazella scemmerringi*) from S. Africa, deposited; a Crested Pigeon (*Ocyphaps lophotes*), bred in the Gardens.

SCIENTIFIC SERIALS

Foggendorff's *Annalen der Physik und Chemie*, No. 8, 1876. —This interesting number commences with a paper by M. Zöllner, investigating a class of electrical phenomena that do not appear to have been previously studied. When two different bodies, an insulator and a half-conducting rubbing instrument are rubbed together, electrical currents occur in the rubber, as follows:—If the rubbed insulator be positively electric, the currents at the surface of contact or in the interior of the rubber are parallel, but opposite to the relative motion of the insulator; if the latter be negative, the currents of the rubber are parallel, and in the same direction as the insulator's motion. These currents were measured, and shown to be often very considerable, and they could be intensified by multiplying the rubbers and connecting their corresponding parts with wires. They lessen the useful effect of an electric machine, and an advantage is had by uniting the electricity at the positive end of the rubber with the positive electricity of the conductor. M. Zöllner is led to study a variety of related experiments, e.g. the currents generated in flow of water through a thin tube. He arrives at this general result: Diaphragm-currents and their modifications are due to the occurrence of new electromotive forces, such that the electric current they generate in the moved liquid, so long as it is in contact with the canals of the diaphragm or the capillary tube, are always opposite to an electric current which would force the liquid in the same direction through the diaphragm as the mechanical pressure.—From experiments made with caoutchouc, carbonic acid, and hydrogen, on the diffusion of gases through absorbing substances, M. Wroblewski concludes that the velocity with which a given quantity of gas diffuses through a caoutchouc membrane is proportional to the pressure of the diffusing gas on the membrane.—A paper on the radiometer is contributed by M. Finkener; the object of the experiments was to show the influence of change of gas, pressure, and radiant heat on the instrument. He finds (1) that with rarefaction not carried too far, and with equal heating, a given motion takes place at a greater pressure in a specifically lighter gas than in a heavier one; (2) the turning force excited by the flame increases at first (other circumstances the same) with the rarefaction of the gas, but with further rarefaction decreases; (3) this maximum occurs at a greater pressure with hydrogen than with air and carbonic acid. M. Finkener offers an explanation of the motion, deduced from these phenomena.—The law of colour-mixture may be studied by superposing different parts of two spectra, or looking at a glass plate from which a surface of one colour is reflected while another colour is seen through it, or by means of the persistence of impressions from a disc with variously coloured sectors or rings set in rapid rotation. M. Bezold here gives another and still more convenient method. You look through a prism of Iceland spar set in a tube blackened interiorly, which is closed below by a disc with four squares cut out of it. The prism gives double images of the squares, and in a certain position two of the eight are brought to coincide with other two in the middle. Surfaces of different colours being brought under the two squares occupying (say) the upper row, their composite colour is obtained in the middle image, and then may be found what colour must be put under the lower two squares to obtain a colour in the middle corresponding to the one above.—Dr. Berthold collects some interesting early indications of a knowledge of the phenomenon of fluorescence as shown by an infusion of nephritic wood. It is remarkable that though Priestley, Fischer, and Wilde referred at some length to the observations made by Kircher, Boyle, Newton, Wolff, and Wunsch, on fluorescence, the facts should have been almost entirely forgotten till our time.—Studying the influence of temperature on the galvanic conductivity of tellurium, M. Exner finds that the seemingly quite irregular resistances of the metal after repeated heatings stand in direct relation to the time of heating and of cooling, a circumstance which must be connected with the crystalline structure of tellurium at low temperatures.—Among the remaining papers we note accounts of an apparatus for combination of vibrations at right angles to each other (Stöhrer), a new hydrometer (Sedlacek), and an improved poison syphon (Antolik).

Sitzungsberichte der naturwissenschaftlichen Gesellschaft Isis in Dresden, January to June, 1876.—From this publication we note the following papers of importance:—*Mineralogical and Geological Section*.—Geognostical researches on the Leitmeritz mountains, by Herr Engelhardt.—On the Velino fall near Terni, by C. Bley.—On the silver and gold mines in the neighbourhood